

# e-med<sup>ic</sup> Silence TP 2/1

All-in-one Medical Panel PC



## User Manual

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# I. Safety & Regulatory Notice

## A. Electronic Magnetic Compatibility

| Guidance and manufacturer’s declaration – electromagnetic emissions   |            |   |
|---|------------|---|
| The e-medic Silence TP 2 & TP 1 are intended for use in the electromagnetic environment specified below. The user should assure the products are used in such an environment. |            |   |
| Emissions test  | Compliance | Electromagnetic environment – guidance  |
| RF emissions<br>CISPR 11  |            | The e-medic Silence TP 2 & TP 1use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.  |
| RF emissions<br>CISPR 11  |            | The e-medic Silence TP 2 & TP 1 are suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| Harmonic emissions<br>IEC 61000-3-2   |            |   |
| Voltage fluctuations/<br>flicker emissions<br>IEC 61000-3-3   |            |   |
| Recommended separation distances between portable and mobile RF communications equipment and the e-medic Silence TP 2 & TP 1  |            |   |

The e-medice Silence TP 2 & TP 1 are intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The user of the e-medice Silence TP 2 & TP 1 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the e-medice Silence TP 2 & TP 1 as recommended below, according to the maximum output power of the communications equipment.

| Rated maximum output power of transmitter<br>W | Separation distance according to frequency of transmitter<br>m |  |   |
|--|--|--|---|
|  | 150 kHz to 80 MHz<br>$d = 1,2 \sqrt[3]{P}$                     | 80 MHz to 800 MHz<br>$d = 1,2 \sqrt[3]{P}$ | 800 MHz to 2,5 GHz<br>$d = 2,3 \sqrt[3]{P}$ |
| 0,01   | 0,12   | 0,12                                       | 0,23  |
| 0,1  | 0,38   | 0,38                                       | 0,73  |
| 1  | 1,2  | 1,2  | 2,3   |
| 10   | 3,8  | 3,8  | 7,3   |
| 100  | 12   | 12   | 23  |

For transmitters rated at a maximum output power not listed above, the recommended separation distance in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where  $P$  is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.


#### Guidance and manufacturer's declaration – electromagnetic immunity

The e-medice Silence TP 2 & TP 1 are intended for use in the electromagnetic environment specified below. The user of the e-medice Silence TP 2 & TP 1 should assure that it is used in such an environment.

| Immunity test | IEC 60601 test level | Compliance level | Electromagnetic environment – guidance |
|---------------|----------------------|------------------|--|
| Electrostatic | ±6 kV contact        | ±6 kV contact    | Floors should be wood,                 |




|  |   |   |   |
|--|---|---|---|
| discharge (ESD)<br>IEC 61000-4-2   | $\pm 8$ kV air  | $\pm 8$ kV air  | concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.   |
| Electrical fast transient/burst<br><br>IEC 61000-4-4                                   | $\pm 2$ kV for power supply lines<br><br>$\pm 1$ kV for input/output lines  | $\pm 2$ kV for power supply lines<br><br>$\pm 1$ kV for input/output lines  | Mains power quality should be that of a typical commercial or hospital environment.   |
| Surge<br>IEC 61000-4-5   | $\pm 1$ kV line(s) to line(s)<br><br>$\pm 2$ kV line(s) to earth  | $\pm 1$ kV line(s) to line(s)<br><br>$\pm 2$ kV line(s) to earth  | Mains power quality should be that of a typical commercial or hospital environment.   |
| interruptions and voltage variations on power supply input lines<br><br>IEC 61000-4-11 | $< 5$ % <i>UT</i> ( $> 95$ % dip in <i>UT</i> ) for 0,5 cycle<br><br>40 % <i>UT</i> (60 % dip in <i>UT</i> ) for 5 cycles<br><br>70 % <i>UT</i> (30 % dip in <i>UT</i> ) for 25 cycles<br><br>$< 5$ % <i>UT</i> ( $> 95$ % dip in <i>UT</i> ) for 5 sec | $< 5$ % <i>UT</i> ( $> 95$ % dip in <i>UT</i> ) for 0,5 cycle<br><br>40 % <i>UT</i> (60 % dip in <i>UT</i> ) for 5 cycles<br><br>70 % <i>UT</i> (30 % dip in <i>UT</i> ) for 25 cycles<br><br>$< 5$ % <i>UT</i> ( $> 95$ % dip in <i>UT</i> ) for 5 sec | Mains power quality should be that of a typical commercial or hospital environment. If the user of the e-medic Silence TP 2 & TP 1 require continued operation during power mains interruptions, it is recommended that the e-medic Silence TP 2 & TP 1 be powered from an uninterruptible power supply or a battery. |

| Power frequency<br>(50/60 Hz)<br>magnetic field<br><br>IEC 61000-4-8   | 3 A/m                       | 3 A/m                   | Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.  |
|--|-----------------------------|-------------------------|--|
| NOTE <i>UT</i> is the a.c. mains voltage prior to application of the test level.   |                             |                         |  |
| <b>Guidance and manufacturer's declaration – electromagnetic immunity</b>  |                             |                         |  |
| The e-medice Silence TP 2 & TP 1 are intended for use in the electromagnetic environment specified below. The user of the e-medice Silence TP 2 & TP 1 should assure that it is used in such an environment. |                             |                         |  |
| <b>Immunity</b>  | <b>IEC 60601 test level</b> | <b>Compliance level</b> | <b>Electromagnetic environment – guidance</b>  |
| Conducted RF<br>IEC 61000-4-6  | 3 Vrms<br>150 kHz to 80 MHz | Vrms                    | Portable and mobile RF communications equipment should be used no closer to any part of the e-medice Silence TP 2 & TP 1, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.<br><br><b>Recommended separation distance</b><br>$d = 1,2 \sqrt[3]{P}$ |
| Radiated RF<br>IEC 61000-4-3   | 3 V/m<br>80 MHz to 2,5 GHz  | V/m                     | $d = 1,2 \sqrt[3]{P}$ 80 MHz to 800 MHz<br>$d = 2,3 \sqrt[3]{P}$ 800 MHz to 2,5 GHz<br><br>where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <i>d</i> is the recommended separation  |

|  |  |  |   |
|--|--|--|---|
|  |  |  | <p>distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p>  |
| <p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.</p>   |  |  |   |
| <p><sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the e-medical Silence TP 2 &amp; TP 1 are used exceeds the applicable RF compliance level above, the e-medical Silence TP 2 &amp; TP 1 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the e-medical Silence TP 2 &amp; TP 1.</p> <p><sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than V/m.</p> |  |  |   |

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## B. Safety

|   |  |
|---|--|
|  | ISO 7000-0434 : CAUTION, consult ACCOMPANYING DOCUMENTS.   |
|  | ISO 7000-1641 : Follow operating instructions or Consult instructions for use.   |
|  | IEC 60417 -5009 : STAND-BY.  |
|  | IEC 60417-5031 : Direct current.   |
|  | <p>EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself.</p> <p>The mark on electrical and electronic products only applies to the current European Union Member States.</p> |

When networking with electrical devices, the operator is responsible for ensuring that the resulting system meets the requirements set forth by the following standards:

### – EN 60601-1 (IEC 60601-1)

Medical electrical equipment

Part 1: General requirements for safety

### – EN 60601-1-1 (IEC 60601-1-1)

Medical electrical equipment

Part 1-1: General requirements for safety



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Collateral standard: Safety requirements for  
Medical electrical systems

**– EN 60601-1-2 (IEC 60601-1-2)**

Medical electrical equipment

Part 1-2: General requirements for safety

Collateral standard: Electromagnetic compatibility; Requirements and tests

Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment. If in doubt, consult the technical services department or your local representative.

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## C. Intended Use

The e-medice Silence TP 2 & TP 1 are designed to serve as a medical PC for general purpose usage in the hospital environment and for clinic review purpose. It could be used as a computer device for Surgical, Radiology, PACS (Picture Archiving Communication Systems), LIS (Lab Information Systems) and Electronic Medical Record application.

It shall not be used in life-supporting systems.

**WARNING:** Critical diagnostic decision must not be based solely on images displayed by this device.

**CAUTION:** Use suitable mounting apparatus to avoid risk of injury.

The user is not to touch SIP/SOPs and the patient at the same time.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB (A).

- a) Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".
- b) Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.
- c) **CAUTION:** This power adapter "Sinpro MPU101-105" is a forming part of this medical PC.

### **CAUTION:**

Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20° C (-4° F) or above 60° C (140° F). This may damage the equipment.

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## II. Product Basic

### A. Specifications

| Main System         |  |
|---------------------|--|
| CPU: for TP 2       | . Support Intel Core i Ivy Bridge ultra low power CPU w/ BGA1023 package, 17W TDP (max.) and integrated graphics |
| CPU: for TP 1       | . Support Intel Core i Ivy Bridge mobile CPU w/ PGA988 package, 35W TDP (max.) and integrated graphics           |
| Chipset             | Intel BD82HM65 PCH   |
| Graphics            | Intel HD Graphics HD 4000  |
| Memory              | 8GB maximum, x 2 DDR3 SODIMM, 1066/1333/1600MHz, 2GB/4GB/8GB   |
| Serial ATA          | SATA3 x 2, 600MB/s transfer rate   |
| USB                 | x 7 (socket), USB 2.0 (x 4 external, x 3 internal)   |
| COM                 | x 6 (x 2 external, x 4 internal)   |
| Audio               | Realtek ALC262 audio codec, 2+2 watts amplifier  |
| LAN                 | Marvell 88E8071 Gigabit Ethernet x 2   |
| BIOS                | . AMI BIOS, 4M EEPROM<br>. RTC wake up/Wake on LAN/Power on after power failure/ PnP/ACPI                        |
| Speaker             | 1.5 watts x 2 (front bottom)   |
| LCD Panel           |  |
| Size                | 21.5" wide 16:9  |
| Resolution          | Full HD 1920 x 1080  |
| Brightness          | 250 nits   |
| Contrast            | 1000:1   |
| Color numbers       | 16.7M (6-bit x 3 + Hi FRC)   |
| Viewing angle       | 170 (H) / 160 (V)  |
| Response time       | 5 ms (R + F)   |
| Backlight           | LED, 30,000 hours life time  |
| Touch Panel         |  |
| Type                | Front full flat customized touch panel   |
| Technology          | Resistive touch, 5-wire  |
| Light transmittance | > 78% (at 550 nm wavelength)   |
| Hardness            | 3H   |
| Touch stylus        | No limitation  |
| Resolution          | 4096 x 4096  |

|                                       |   |
|---------------------------------------|---|
| Life time                             | 35 million activations  |
| <b>Storage &amp; Expansion</b>        |   |
| HDD                                   | 2.5" SATA HDD drive bay x 1 + anti-vibration kit  |
| Expansion slot                        | <ul style="list-style-type: none"> <li>. PCI-E (x16) x 1 (optional)</li> <li>. Card size: 100 x 155 x 18/0.5 mm or 68 x 220 x 18/0.5 mm</li> <li>. Mini PCIe x 2 (52 pin card-edge type)</li> </ul>                           |
| <b>I/O &amp; Control Keys</b>         |   |
| USB                                   | USB 2.0 x 4   |
| COM                                   | DB-9 x 2 (RS232, RS232/422/485)   |
| LAN                                   | RJ-45 x 2, Gigabit  |
| Video-out                             | DVI-I x 1   |
| Audio                                 | Line-out, Microphone-in (3.5 mm phone-jack)   |
| Power input                           | DC-in x 1, 6V~32V   |
| Control keys                          | <ul style="list-style-type: none"> <li>. Front side, projected capacitive type</li> <li>. Power on/off, Brightness, Audio volume, Backlight on/off, Touch on/off</li> </ul>   |
| <b>Power</b>                          |   |
| Power adaptor                         | External, 100 watts, 90~264V AC in, 12V DC out, medical grade, (Sinpro MPU101-105)  |
| Power consumption                     | <ul style="list-style-type: none"> <li>. TP 2 - 65 watts (typical, without any add-ons)</li> <li>. TP 1 – 75 watts (typical, without any add-ons)</li> </ul>  |
| Internal battery (optional)           | <ul style="list-style-type: none"> <li>. Rechargeable Lithium-Ion, 2S2P, 29.2Wh (avg.) / 27.74Wh (min.), for 20-25 minutes operating (approx.)</li> <li>. Charge time: 2 hours (system off), 3.5 hours (system on)</li> </ul> |
| <b>Mechanical &amp; Environmental</b> |   |
| Housing                               | <ul style="list-style-type: none"> <li>. Front: Full flat design / Touch (standard), Glass (optional)</li> <li>. Rear: Plastic + I/O cover w/ antibacterial treatment</li> </ul>  |
| Color                                 | . Housing: White . Control key icons: Grey  |
| IP rating                             | . IP65 – front side   |
| Cooling                               | <ul style="list-style-type: none"> <li>. TP 2 - fanless</li> <li>. TP 1 - Variable speed smart fan design, &lt; 30 dB (typical)</li> </ul>  |
| Mounting                              | VESA 75 x 75 / 100 x 100 mm   |
| Kensington lock                       | Yes, x 1 at bottom  |
| Dimension                             | 540 x 375 x 78 mm (W x H x D, w/o stand)  |
| Weight (net)                          | 7 Kg (approximate, w/o power adaptor)   |
| Temperature                           | <ul style="list-style-type: none"> <li>. Operating: 0°C to 40°C (32°F ~104°F)</li> <li>. Storage/Transportation: -20°C to 60°C (-4°F ~140°F)</li> </ul>   |
| Humidity                              | <ul style="list-style-type: none"> <li>. Operating: 10% to 90%, non-condensing</li> <li>. Storage/Transportation: 10% to 90% @ 40°C, non-condensing</li> </ul>  |

|                |   |
|----------------|---|
| Altitudes      | . Operating: up to 3,000 m (9,842 feet)<br>. Shipping: up to 12,192 m (40,000 feet)   |
| Pressure       | . Operating: 700 – 1060 hPa<br>. Storage/Transportation: 186 – 1,060 hPa  |
| Vibration      | . Operating: 15g/0.53 oz, 11 ms, half sine wave<br>. Non-operating: 50g/1.76 oz, 11 ms, half sine wave                          |
| Shock          | . Operating: 5 ~ 17 Hz ,<br>Amplitude - 0.117 ~ 500Hz ,<br>Acceleration - 1.0G<br>. Non-operating: 10~55Hz/0.15g, 55~500Hz/2.0g |
| Regulatory     | . CE / Medical Safety 60601-1 3 <sup>rd</sup> edition (EN 60601-1:2006)<br>/ Medical EMC 60601-1-2:2007                         |
| <b>Options</b> |   |
| Options        | . WLAN – mini PCIe module w/ internal antenna x 2   |
|                | . Bluetooth 2.1 (USB)   |
|                | . Battery pack  |
|                | . Power adaptor w/ 2.4m or 3.6m DC cable  |
|                | . Desktop stand   |

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## B. The Packing / Outline / I/O / Control Buttons

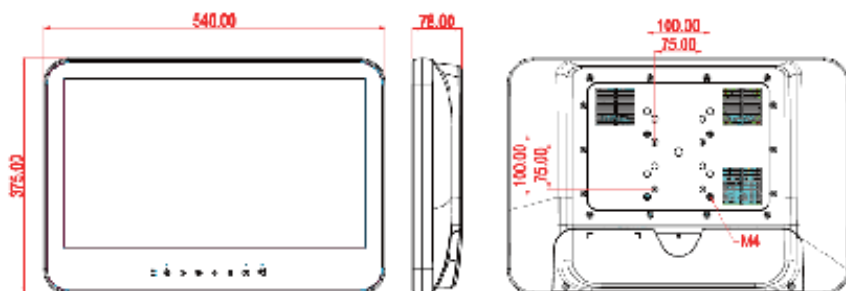
### Basic packing list --

- . The medical PC: e-medice Silence TP 2 (fanless) or TP 1 (smart fan)
- . Power adaptor (Sinpro MPU101-105)
- . AC power cord
- . Touch stylus pen
- . DVD title (with drivers & user's manual)
- . Screws (for rear cover VESA mounting)

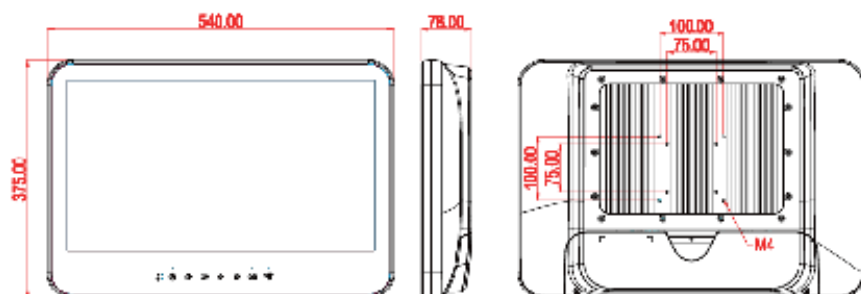
Note: The contents may vary due to different options or configuration.

### Outline dimension --

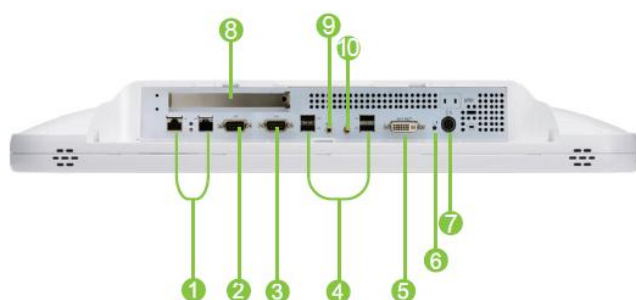
#### . e-medice Silence TP 1



## . e-medic Silence TP 2



## . The I/O interface (basic configuration)



- |                 |                       |
|-----------------|-----------------------|
| ① LAN x 2       | ⑥ Reset               |
| ② RS232/422/485 | ⑦ DC-in               |
| ③ RS232         | ⑧ PCI-E/PCI expansion |
| ④ USB x 4       | ⑨ Line-out            |
| ⑤ DVI-I         | ⑩ Micropone-in        |

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## . The control buttons & LED indicators



### Control buttons & LED indicators



1. HDD indicator:  
Dark - non-operating/stand-by    Amber blinking - accessing
2. Battery indicator:  
Dark - non-operating    Amber - operating    Amber blinking - battery low
3. Power indicator: Dark - off    Green - on
4. Power on/off button
5. Speaker volume adjustment (-) button
6. Speaker volume adjustment (+) button
7. LCD brightness (-) button
8. LCD brightness (+) button
9. LCD backlight on/off button & indicator:  
Dark - backlight on    Green - backlight off
10. Touch enable/disable button & indicator:  
Dark - touch enabled    Amber - touch disabled
  - a. Press the button for 5 seconds to disable or enable touch.
  - b. When the touch is disabled, after 60 seconds, the touch will be enabled automatically.



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## C. Others

### . To clean or disinfect the system

To clean or disinfect the system, to avoid any damage to the touch panel and the plastic housing, please check below chemical resistance table to ensure you disinfectant does not contain harmful ingredients.

We suggest to use Ethanol and do check with the personal who is responsible for disinfecting.

| Chemical                                 | Touch panel |
|--|-------------|
| 10% Sodium Hydroxid                      | OK          |
| Acetone                                  | OK          |
| Carbitol Acetate                         | OK          |
| Cellosolve Acetate                       | OK          |
| Ethanol / Alcohol                        | OK          |
| Methylene Chloride                       | OK          |
| Hydrochloric Acid - 6%                   | OK          |
| Nitric Acid - 40%                        | Damage      |
| Hexane                                   | OK          |
| Isopropanol (Isopropyl Alcohol)/Propanol | OK          |
| Methyl Ethyl Ketone                      | OK          |
| Heptane                                  | OK          |
| Toluene                                  | Damage      |
| Turpentine                               | OK          |
| Vm & P Naptha                            | OK          |
| Bleach (Sodium Hypochlorite , NaOCl)     | Damage      |
| Benzyl alcohol                           | Damage      |
| Hydrogen peroxide                        | Damage      |

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| Chemical                                 | Plastic housing                  |
|--|----------------------------------|
| 40% Sodium Hydroxid                      | Damage                           |
| Acetone                                  | Damage                           |
| Carbitol Acetate                         | Damage                           |
| Cellosolve Acetate                       | Damage                           |
| Ethanol / Alcohol                        | 500g load with 95% Alcohol--> OK |
| Methylene Chloride                       | Damage                           |
| Hydrochloric Acid - 6%                   | Damage                           |
| Hexane                                   | Damage                           |
| Isopropanol (Isopropyl Alcohol)/Propanol | Damage                           |
| Methyl Ethyl Ketone                      | Damage                           |
| Heptane                                  | Damage                           |
| Toluene                                  | 500g load with 5% Cresol --> OK  |
| Turpentine                               | Damage                           |
| Vm & P Naptha                            | Damage                           |
| Bleach (Sodium Hypochlorite , NaOCl)     | 500g load with 10% Bleach--> OK  |
| Benzyl alcohol                           | Damage                           |
| Hydrogen peroxide                        | Damage                           |

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### . The internal battery (optional)

For those systems installed with internal battery, below is the specification.

|                   |   |
|-------------------|---|
| Battery cell type | Lithium-Ion rechargeable battery cell (2000mAh/cell)          |
| Configuration     | 2S2P  |
| Typical capacity  | 4000mAh (for two cells)                                       |
| Minimum capacity  | 3800mAh (for two cells)                                       |
| Nominal voltage   | 7.3 V (average)   |
| Energy            | 29.2 Wh (typical) / 27.74 Wh (minimum)                        |
| Charge voltage    | 8.4 V (typical)   |
| Charge time       | .System on (1A): 200 minutes<br>.System off (2A): 120 minutes |
| Battery life      | Discharge (> 10 minutes) for 300 times, < 70% capacity left   |

During the transportation, we suggest you to disable battery

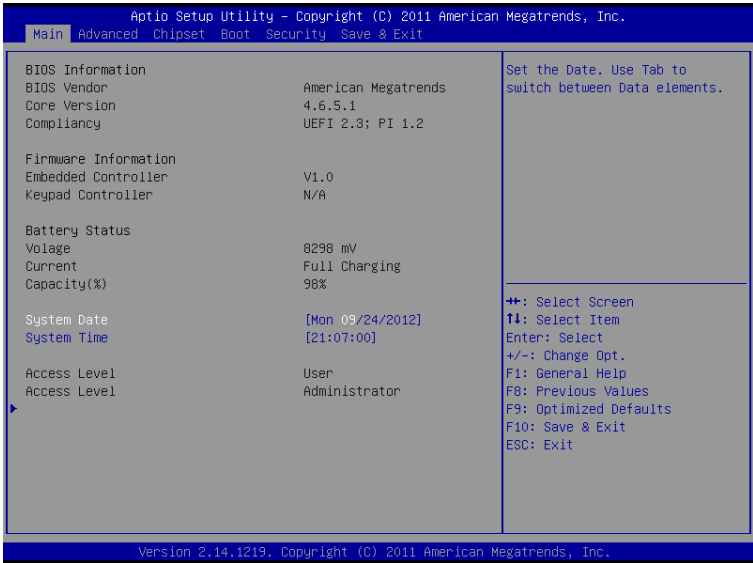
- . Power off the system
- . Disconnect the DC power (or AC power cord)
- . Press the “speaker volume (+)” button for 10 seconds

Next time when you connect the AC power and power on the system, the battery will be enabled automatically.

### III. BIOS

Immediately after powering on the system, during the POST (Power On Self Test) stage, press the <Del> key to enter the BIOS setup utility program. Follow the menu & the keys instruction to modify the BIOS configuration & settings.

#### Main --



## Advanced --



### Launch OpROM Support

#### Launch PXE OpROM

Enables or disables Boot Option for Legacy Network Devices.

#### Launch Storage OpROM

Enables or disables Boot Option for Legacy Mass Storage Devices with Option ROM.

### PCI Subsystem Settings

#### PCI ROM Priority

In Case of multiple Option ROMs (Legacy and EFI Compatible), specifies what PCI Option ROM to launch.

#### PCI Latency Timer

Value to be programmed into PCI Latency Timer Register.

#### VGA Palette Snoop

Enables or disables VGA Palette Registers Snooping.

#### PERR# Generation

Enables or Disables PCI Device to Generate PERR#.

#### SERR# Generation

Enables or Disables PCI Device to Generate SERR#.

#### Relaxed Ordering

Enables or Disables PCI Express Device Relaxed Ordering.

---

**Extended Tag**

If ENABLED allows Device to use 8-bit Tag field as a requester.

**No Snoop**

Enables or Disables PCI Express Device No Snoop option.

**Maximum Payload**

Set Maximum Payload of PCI Express Device or allow System BIOS to select the value

**Maximum Read Request**

Set Maximum Read Request Size of PCI Express Device or allow System BIOS to select the value.

**ASPM Support**

Set the ASPM Level: Force L0 – Force all links to L0 State : AUTO – BIOS auto configure : DISABLE – Disables ASPM.

**Extended Synch**

If ENABLED allows generation of Extended Synchronization patterns.

**ACPI Settings****Enables ACPI Auto Conf**

Enables or Disables BIOS ACPI Auto Configuration.

**Enable Hibernation**

Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

**ACPI Sleep State**

Select the highest ACPI sleep state the system will enter, when the SUSPEND button is pressed.

**S5 RTC Wake Settings****Wake System with Fixed Time**

Enables or disables system wake on alarm event. When enabled, the system will wake on the time specified.

**Wake system with Dynamic Time**

Enables or disables system wake on alarm event. When enabled, the system will wake on the current time+Increase minute(s).

**CPU Configuration****Hyper-Threading**

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS optimized for Hyper-Threading Technology)

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## **Core-Multi Processing**

Enable or Disable Core-Multi Processing mode.

## **Execute Disable Bit**

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

## **Limit CPUID Maximum**

Disabled for Windows XP.

## **IDE Configuration**

### **ATA or IDE Configuration**

Select ATA or IDE configuration.

### **Configure SATA AS**

Select a configuration for SATA controller.

### **HDD Acoustic Power Ma**

Option to enable or disable HDD Acoustic Power Management.

### **DiPM**

Option to enable or disable DiPM.

## **Intel IGD SWSCI OpRegion**

### **DVMT Mode Select**

Selects DVMT Mode used by Internal Graphics Device.

### **DVMT/FIXED Memory**

Selects DVMT/FIXED Mode Memory size used by Internal Graphics Device.

### **IGD – Boot Type**

Select the Video Device which will be activated during POST. This has no effect if external graphics present.

### **LCD Panel Type**

Select LCD panel used by Internal Graphics Device by selecting the appropriate setup item.

### **Panel Scaling**

Select the LCD panel scaling option used by the Internal Graphics Device.

### **GMCH BLC Control**

Back Light Control Setting

### **BIA Control**

### **Spread Spectrum clock**

>>Hardware: Spread is controlled by chip;

>>Software: Spread is controlled by BIOS.

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## **TV1 Standard**

## **TV2 Standard**

### **Active LFP**

Select the Active LFP Configuration.

No LVDS:VBIOS does not enable LVDS.

INT-LVDS:VBIOS enables LVDS driver by Integrated encoder.

SDV0 LVDS:VBIOS enables LVDS driver by SDV0.

## **USB Configuration**

### **Legacy USB Support**

Allows USB devices to be used in MS-DOS.

### **EHCI Hand-off**

This is a workaround for OSeS without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

### **USB transfer time-out**

The time-out value for Control, Bulk, and Interrupt transfers.

### **Device reset time-out**

USB mass storage device Start Unit command time-out.

### **Device power-up delay**

Maximum time the device will take before it properly reports itself to the HOST Controller.

'Auto' uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

## **F71869 Super IO Configuration**

### **Serial Port 0 Configuration**

Set Parameters of Serial Port 0 (COM A).

### **Serial Port 1 Configuration**

Set Parameters of Serial Port 1 (COM B).

## **F71869 H/W Monitor**

Monitor hardware status

## **Second Super IO Configuration**

### **Serial Port 1 Configuration**

Set Parameters of Serial Port 1 (COM C).

### **Serial Port 2 Configuration**

Set Parameters of Serial Port 2 (COM D).



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**Serial Port 3 Configuration**

Set Parameters of Serial Port 3 (COM E).

**Serial Port 4 Configuration**

Set Parameters of Serial Port 4 (COM F).

**Serial Port Console Redirection**

Serial Port Console Redirection.

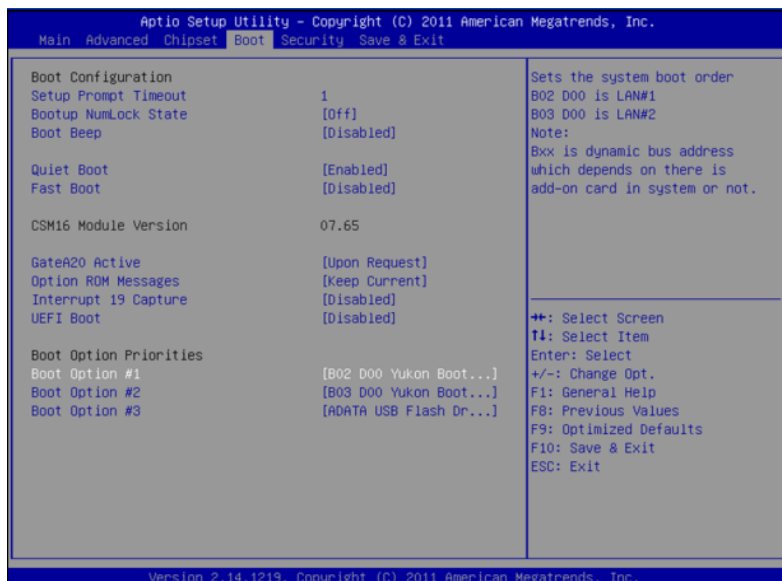
Chipset --



Host Bridge/South Bridge

This screen provides information on Host Bridge/South Bridge parameters.

## Boot --



### Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

### Bootup Numlock State

Selects the keyboard NumLock state.

### Quiet Boot

Allows you to determine whether to display the AMI Logo at system startup.

**Disabled** displays normal POST message.

### Fast Boot

Enables or disables the quick boot function to speed up the system boot-up process to shorten the waiting time for entering the operating system and to deliver greater efficiency for daily use.

### GateA20 Active

This option is useful when any RT code is executed above 1MB.

Upon Request GA20 can be disabled using BIOS services. (Default)

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Always Do not allow disabling GA20.

### **Option ROM Messages**

Sets display made for option ROM.

### **Interrupt 19 Capture**

Enables or disables Option ROMs to Trap Int 19.

### **Boot Option Priorities**

Specifies the sequence of loading the operating system from the installed hard drives.

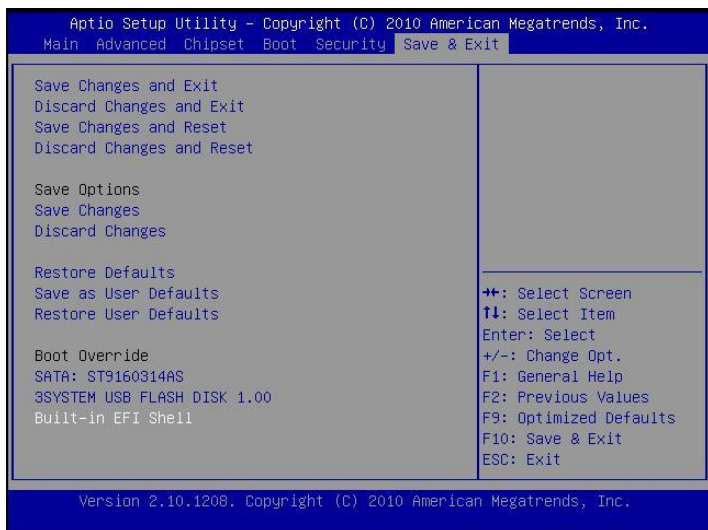
Security –



Enables or disables the security chip. It is recommended that you use this function with the Administrator/User password.

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## Save & Exit –



### Save Changes and Exit

Exit system setup after saving the changes.

### Discard Changes and Exit

Exit system setup without saving any changes.

### Save Changes and Reset

Reset the system after saving the changes.

### Discard Changes and Reset

Reset system setup without saving the changes.

### Save Changes

Save the changes done so far to any of setup options.

### Discard Changes

Discard the changes done so far to any of setup options.

### Restore Defaults

Restore/load default values for all the setup options.

### Save as User Defaults

Save the changes done so far as User Defaults.

### Restore User Defaults

Restore the User Defaults to all the setup options.

### EFIGUI\_FLASH

Press <Enter> to execute the simple EFI GUI Flash Program.



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